

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Serial No.: Continuation of 10/006,915 Art Unit: Not Yet Assigned

Filed: February 6, 2004 Examiner: Not Yet Assigned

For: *BIOLOGICAL SYSTEMS FOR MANUFACTURE OF  
POLYHYDROXYALKANOATE POLYMERS CONTAINING 4-HYDROXYACIDS*

Commissioner for Patents  
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**INFORMATION DISCLOSURE STATEMENT**

Sir:

Pursuant to 37 C.F.R. §1.56 and 37 C.F.R. §1.97, Applicants submit an Information Disclosure Statement, including fifteen (15) pages of Form PTO-1449. All of the documents cited below were cited by or submitted to the Patent Office in Application Serial No. 10/006,915 filed November 9, 2001, to which the present application claims priority. Pursuant to 37 C.F.R. §1.98(d), Applicants are not enclosing copies of these publications. Copies will be provided upon request, however.

This Information Disclosure Statement is being filed under 37 C.F.R. § 1.97(b) prior to a first Office Action on the merits. It is believed that no fee is required with this submission. However, should a fee be required, the Commissioner is hereby authorized to charge any required fees to Deposit Account No. 50-1868.

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U.S.S.N.: Continuation of 10/006,915  
Filed: February 6, 2004  
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**Remarks**

This statement should not be interpreted as a representation that an exhaustive search has been conducted or that no better art exists. Moreover, Applicants invite the Examiner to make an independent evaluation of the cited art to determine its relevance to the subject matter of the present application. Applicants are of the opinion that their claims patentably distinguish over the art referred to herein, either alone or in combination.

Respectfully submitted,



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Patrea L. Pabst  
Reg. No. 31,284

Dated: February 6, 2004

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)				Application Number Continuation of 10/006,915	
				Filing Date First Named Inventor Group Art Unit Examiner Name	February 6, 2004 Gjalt W. Huisman
Sheet	1	of	15	Attorney Docket Number	MBX 017 CON (2)

<b>U.S. PATENT DOCUMENTS</b>						
Examiner Initials*	Cite No. <sup>1</sup>	US Patent Document		Name of Patentee or Applicant of Cited Document	Date of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
		4,430,430		Momose, et al.	02-07-1989	
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Gjalt W. Huisman

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				Filing Date	February 6, 2004
				First Named Inventor	Gjalt W. Huisman
				Group Art Unit	
				Examiner Name	
Sheet	8	of	15	Attorney Docket Number	MBX 017 CON (2)

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		KATO, et al., "Production of a novel copolyester of 3-hydroxybutyric acid with a medium-chain-length 3-hydroxyalkanoic acids by Pseudomonas sp. 61-3 from sugars," <i>Appl. Microbiol. Biotechnol.</i> 45:363-70 (1996).	
		KEUNTJE, et al., "Expression of the putA gene encoding proline dehydrogenase from Rhodobacter capsulatus is independent of NtrC regulation but requires an Lrp-like activator protein," <i>J. Bacteriol.</i> 177:6432 (1995).	
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		KINNAIRD, et al., "The complete nucleotide sequence of the <i>Neurospora crassa</i> am (NADP-specific glutamate dehydrogenase) gene," <i>Gene</i> 26:253-260 (1983).	
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		KLENK, et al., "The complete genome sequence of the hyperthermophilic, sulphate-reducing archaeon <i>Archaeoglobus fulgidus</i> ," <i>Nature</i> 390:364 (1997).	
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		LEE, et al., "Biosynthesis of copolymers consisting of 3-hydroxybutyric acid and medium-chain-length 3-hydroxyalkanoic acids from 1,3-butanediol or from 3-hydroxybutyrate by <i>Pseudomonas</i> sp. A33," <i>Appl. Microbiol. Biotechnol.</i> 42: 901-909 (1995).	

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		MEASURES, "Role of amino acids in osmoregulation of non-halophilic bacteria," <i>Nature</i> 257:398 (1975).	
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		MILLER, et al., "Cloning and characterization of gdhA, the structural gene for glutamate dehydrogenase of <i>Salmonella typhimurium</i> ," <i>J. Bacteriol.</i> 157:171-178 (1984).	
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		MOORE & BOYLE, "Nucleotide sequence and analysis of the speA gene encoding biosynthetic arginine decarboxylase in <i>Escherichia coli</i> ," <i>J. Bacteriol.</i> 172:4631 (1990).	
		MORRISSEY, et al., "Partial cloning and characterization of an arginine decarboxylase in the kidney," <i>Kidney Int.</i> 47:1458 (1995).	
		MOUNTAIN, et al., "The <i>Klebsiella aerogenes</i> glutamate dehydrogenase (gdhA) gene: cloning, high-level expression and hybrid enzyme formation in <i>Escherichia coli</i> ," <i>Mol. Gen. Genet.</i> 199:141-145 (1985).	
		NAGASU, et al., "Nucleotide Sequence of the GDH gene coding for the NADP-specific glutamate dehydrogenase of <i>Saccharomyces cerevisiae</i> ," <i>Gene</i> 37:247-253 (1984).	
		NAKAMURA, et al., "Cloning and sequencing of novel genes from <i>Vibrio alginolyticus</i> that support the growth of K+ uptake-deficient mutant of <i>Escherichia coli</i> ," <i>Biochim. Biophys. Acta</i> 1277:201 (1996).	
		NAM, et al., "Differential expression of ADC mRNA during development and upon acid stress in soybean ( <i>Glycine max</i> ) hypocotyls," <i>Plant Cell Physiol.</i> 38:1156 (1997).	
		OLIVER, et al., "Determination of the nucleotide sequence for the glutamate synthase structural genes of <i>Escherichia coli</i> K-12," <i>Gene</i> 60:1 (1987).	
		OWEN & PEN, eds., <i>Transgenic Plants: A Production System for Industrial and Pharmaceutical Proteins</i> John Wiley & Sons Ltd: England, 1996.	

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		PARK, et al., "Isolation and characterization of recombinant mitochondrial 4-aminobutyrate aminotransferase," <i>J. Biol. Chem.</i> 268: 7636-7639 (1993).	
		PELANDA, et al., "Glutamate synthase genes of the diazotroph Azospirillum brasilense. Cloning, sequencing, and analysis of functional domains," <i>J. Biol. Chem.</i> 268:3099 (1993).	
		PEREZ-AMADOR, et al., "Expression of arginine decarboxylase is induced during early fruit development and in young tissues of Pisum sativum (L)," <i>Plant Mol. Biol.</i> 28:997 (1995).	
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		REITZER, "Ammonia Assimilation and the Biosynthesis of Glutamine, Glutamate, Aspartate, Asparagine, L-Alanine, and D-Alanine," in <i>Escherichia coli and Salmonella</i> , (Neidhardt, ed.), pp. 391-407, ASM Press: Washington, D.C., 1996.	

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		SAITO & DOI, "Microbial synthesis and properties of poly(3-hydroxybutyrate-co-4-hydroxybutyrate) in Comamonas acidovorans," <i>Int. J. Biol. Macromol.</i> 16:18 (1994).	
		SAITO, et al., "Microbial Synthesis and properties of Poly(3-hydroxybutyrate-co-4-hydroxybutyrate)," <i>Polym. Int.</i> 39:169 (1996).	
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		SNEDECOR, et al., "Selection, expression, and nucleotide sequencing of the glutamate dehydrogenase gene of <i>Peptostreptococcus asaccharolyticus</i> ," <i>J. Bacteriol.</i> 173:6162-6167 (1991).	
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### OTHER ART -- NON PATENT LITERATURE DOCUMENTS

Examiner's Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T <sup>2</sup>
		VALLE, et al., "Complete nucleotide sequence of the glutamate dehydrogenase gene from Escherichia coli K-12," <i>Gene</i> 27:193-199 (1984).	
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		WILLADSEN & BUCKEL, "Assay of 4-hydroxybutyryl-CoA dehydratase from <i>Clostridium aminobutyricum</i> ," <i>FEMS Microbiol. Lett.</i> 70:187-192 (1990).	
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		YEE, et al., "Isolation and characterization of a NADP-dependent glutamate dehydrogenase gene from the primitive eucaryote <i>Giardia lamblia</i> ," <i>J. Biol. Chem.</i> 267:7539-7544 (1992).	

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